

## Course Policies and Syllabus

Instructor	Lelys Bravo de Guenni
Office	Baskin Engineering 365B
Email	lbravo@soe.ucsc.edu
Phone	831-459-2513 (email is preferred)
Office Hours	Tuesday and Thursday 2:30-3:30 pm or By Appointment

**Website at UCSC:** <https://ams007-winter17-01.courses.soe.ucsc.edu/>. Course contents will be also available in the *TopHat* platform (<https://tophat.com/>). You can log into *TopHat* at the following url: <https://app.tophat.com/e/908513> with your user name and password (See Additional Information below).

**Lectures:** Tuesday and Thursday, 08:00-9:35 am, Jack Baskin Auditorium 101

**Required Text:** *Biostatistics for the Biological and Health Sciences*, M. M. Triola and M. F. Triola, Pearson (2006).

**Discussion Sections:** TAs will work through additional examples and answer questions about the assigned homework. **Sections are mandatory.** All the quizzes and exams will be passed back in your enrolled section.

Section	Days	Time	Room
01A	Mo	04:00PM-05:05PM	Phys. Sciences 136
01B	We	12:00PM-01:05PM	Phys. Sciences 136
01C	Fr	08:00AM-09:05AM	Phys. Sciences 136
01D	Fr	09:20AM-10:25AM	Phys. Sciences 136
01E	We	02:40PM-03:45PM	Phys. Sciences 136

**Teaching Assistants:**

- Bohan Liu - bliu47@ucsc.edu **Office hours:** TBA
- Raquel Barata- rbarata@ucsc.edu **Office hours:** Tu/Th 3:00 - 4:00 pm, BE312 C/D
- Xingchen Yu - xyu26@ucsc.edu **Office hours:** Mo 12:30 - 2:30 pm, BE-312 C/D

**Additional Information:** We will be using the Top Hat ([www.tophat.com](http://www.tophat.com)) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. Top Hat will require a paid subscription. A full breakdown of all subscription options available can be found here: [www.tophat.com/pricing](http://www.tophat.com/pricing).

**Please note that participation in class using the Top Hat system is optional.** It will account for 4.0% of your final grade as Extra Credit. If you decide to subscribe, the following information should be used:

*Our Top Hat Website is :* <https://app.tophat.com/e/908513>

*Our Top Hat course code is:* 908513

**Computer Labs:** Enrollment in AMS 7L is a co-requisite. Material will be linked, but **administratively 7L is a separate course** and you will receive a separate grade for 7L. This lab is on-line. Please see the web page for your lab sections. All questions, especially administrative ones, about AMS 7L should be answered by Lab Instructors. The Lab instructors are: Yifei Yan and Daniel Kirsner.

**Reading:** The material in this course may go quickly. It is expected that you will stay up to date in reading the relevant sections of the text. The tentative schedule is at the end of this document and it will be also available online. The reading material for each class is listed there.

## Course Description

The main goal of this class is to introduce the basic ideas of probability and statistics with emphasis on applications to the life sciences and to everyday life. While we will learn how to do some calculations by hand, the primary goal is understanding of concepts, including the ability to interpret results. Topics are detailed in the schedule in page 4.

## Homework

Homework will be assigned every Friday, but will not be collected or graded. Answers to the odd numbered problems are in the back of the book. If you feel it would help, you are encouraged to work together on homework. But remember that you have to take the homework quizzes individually, so the point of the homework is to learn the material and practice for the quizzes and exams.

## Grading Policy and Exams Information

- **Quizzes (25%):** There will be **four (4) quizzes** based on the homework, as indicated on the schedule. They will be held on **Jan 19, Jan 31, Feb 23 and Mar 07**. Many questions will be selected homework problems with the numbers changed. The quizzes are closed book, but you should bring a calculator. You must show all work (where applicable) for full credit. **Your lowest quiz score will be dropped when computing your quiz average**, and this is meant to account for nearly all reasons you might have to miss class, including illness. There will be **no make-up for quizzes, no exceptions**.
- **Midterm (30%):** There will be one **in-class midterm** on **February 09**. The midterm will cover material from chapters 1-6. Be sure to bring a calculator. You must show all work for full credit.
- **Final (40%):** The **final exam** will be on Thursday, **March 23** as designated by the registrar, from 8:00 am to 10:30 am. **Be sure to bring a calculator. The date of the final will not be changed.** The final will be a comprehensive exam, covering all chapters discussed in class.
- **Session Attendance (5%):** Attendance to sessions will be 5% of your final grade. This will be based on your attendance record.
- **Extra credit (4.0%):** TopHat will be used in class to present the class contents. We will make use of the TopHat software to typically answer multiple-choice or numerical questions about the class contents. There will be questions associated to each class. Each question will be graded with a 50% weight for correctness and 50% weight for participation.

- **Additional information about quizzes and exams:** You will need a calculator for all the exams and quizzes. It is important that the calculator has a square root key and logarithms, in addition to the usual arithmetic operations. All the exams and quizzes are closed book. **Only for the midterm and the final** (not for the quizzes) you may bring one single 8½in by 11in piece of paper with notes on both sides. This piece of paper should have your name and will be collected with your exam. You are not allowed to include solutions to any of the homework problems in this piece of paper. You must show all your work (when applicable) in the quizzes and exams to get full credit.

**Exam Accommodation:**

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by appointment, preferably within the first two weeks of the quarter. At this time, we would also like us to discuss ways we can ensure your full participation in the course. We encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at [drc@ucsc.edu](mailto:drc@ucsc.edu).

Date	Book Sections	Topics
January 10	1.1-1.3	Intro to the course. Why study statistics? Data types, experiments
12	2.1-2.4	Looking at data Measures of central tendency
17	2.5-2.7 3.1-3.2	Measures of dispersion Definition of Probability
19	3.3-3.7	Addition and Multiplication rules, Risks and Odds
		QUIZ 1
24	4.1-4.5	Discrete distributions – Binomial and Poisson
26	5.1-5.4 5.5-5.6	Normal distribution, Sampling distributions Central limit theorem
31	5.7	Normal approximation to Binomial
		QUIZ 2
February 2	6.1-6.2	Confidence intervals for proportions
	6.3-6.4	Confidence intervals for means
07		Review
09		MIDTERM EXAM
14	7.1-7.3	Hypothesis Testing
16	7.4-7.5	Testing claim for Proportions and Means
21	8.1-8.2	Two-sample hypothesis tests
23	8.3-8.4	More two-sample tests Comparing proportions and means
		QUIZ 3
28	9.1-9.2	Correlation and regression
March 02	9.3-9.4	More on regression
07	9.5	Multiple regression
		QUIZ 4
09	10.1-10.3	Contingency Tables. Chi-square tests
14	11.1-11.2	Analysis of Variance
16		Review
March 23		FINAL EXAM (8:00 am to 10:30 am)